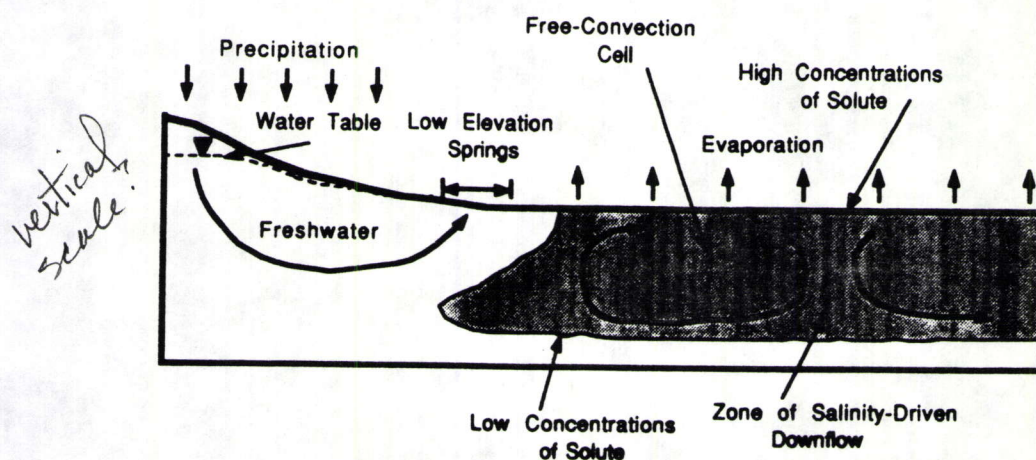*vertical scale*

Figure 1. Conceptual model of groundwater flow and solute transport beneath a playa. Vertical exaggeration is approximately 10:1. The location of the brine wedge is indicated by the stippled region.
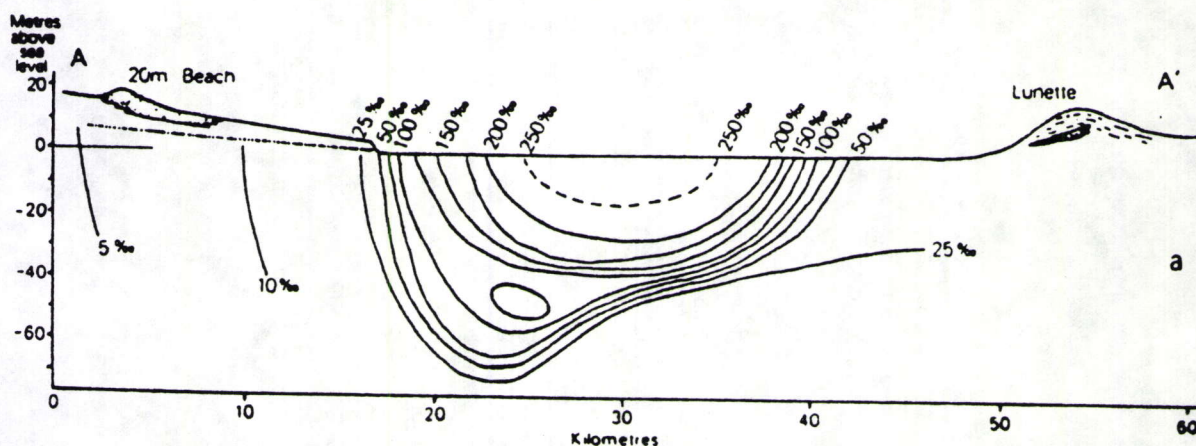
C. Duffy

Figure 2. Dissolved-solids concentration of brine beneath the Lake Frome playa, Australia expressed as weight per mil (‰). From Bowler, 1986.
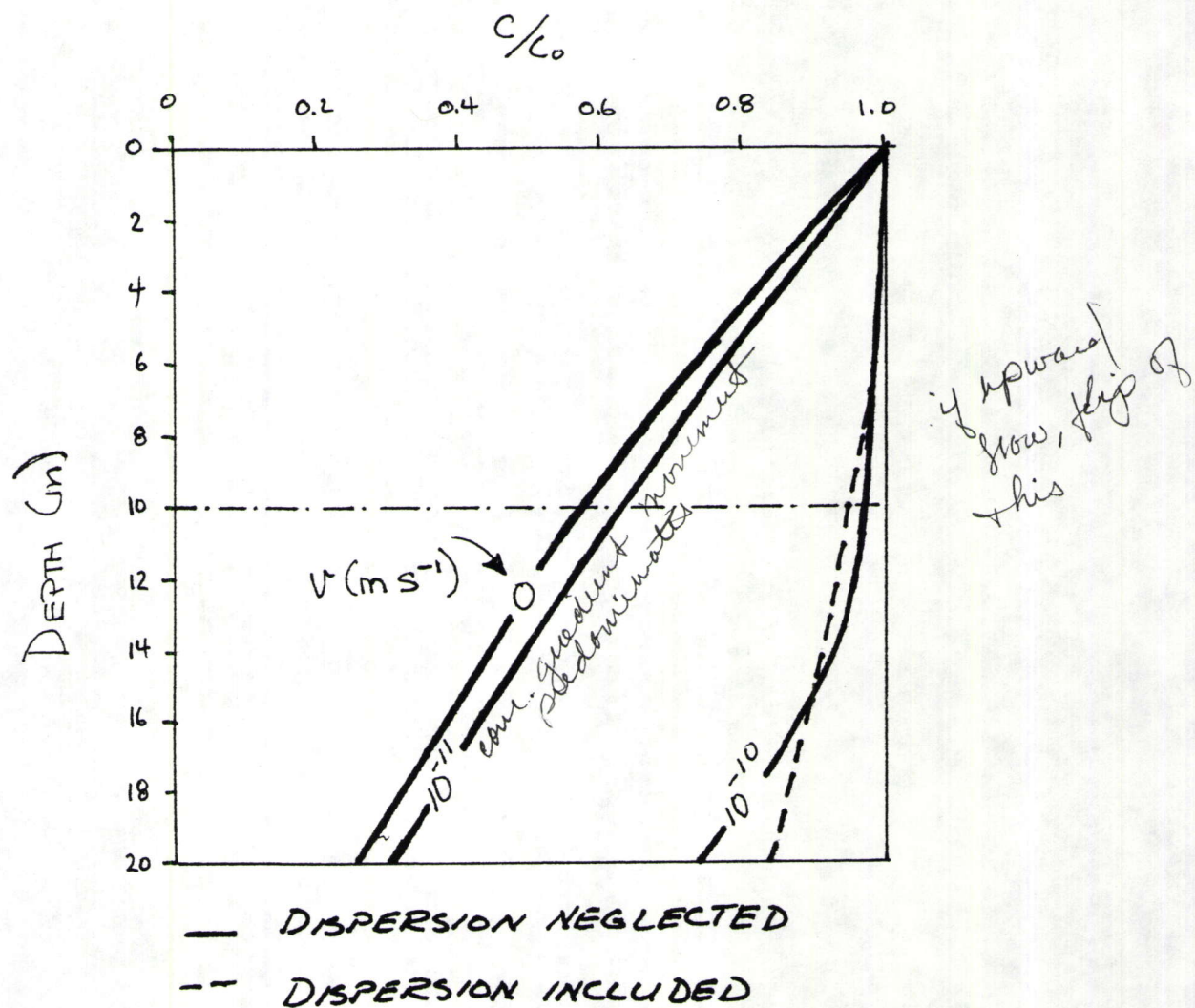
Figure 1. Normalized concentration (C/C$_0$) as a function of depth beneath a playa for vertical fluid velocities (v) of 0, 10^{-11}, and 10^{-10} ms^{-1}. Results are computed using an analytical solution to the 1-dimensional convection-diffusion equation written in the context of fluid flow and solute transport through porous media. The effect of dispersion on solute concentration is computed assuming a Fickian model for mechanical mixing within the porous medium.
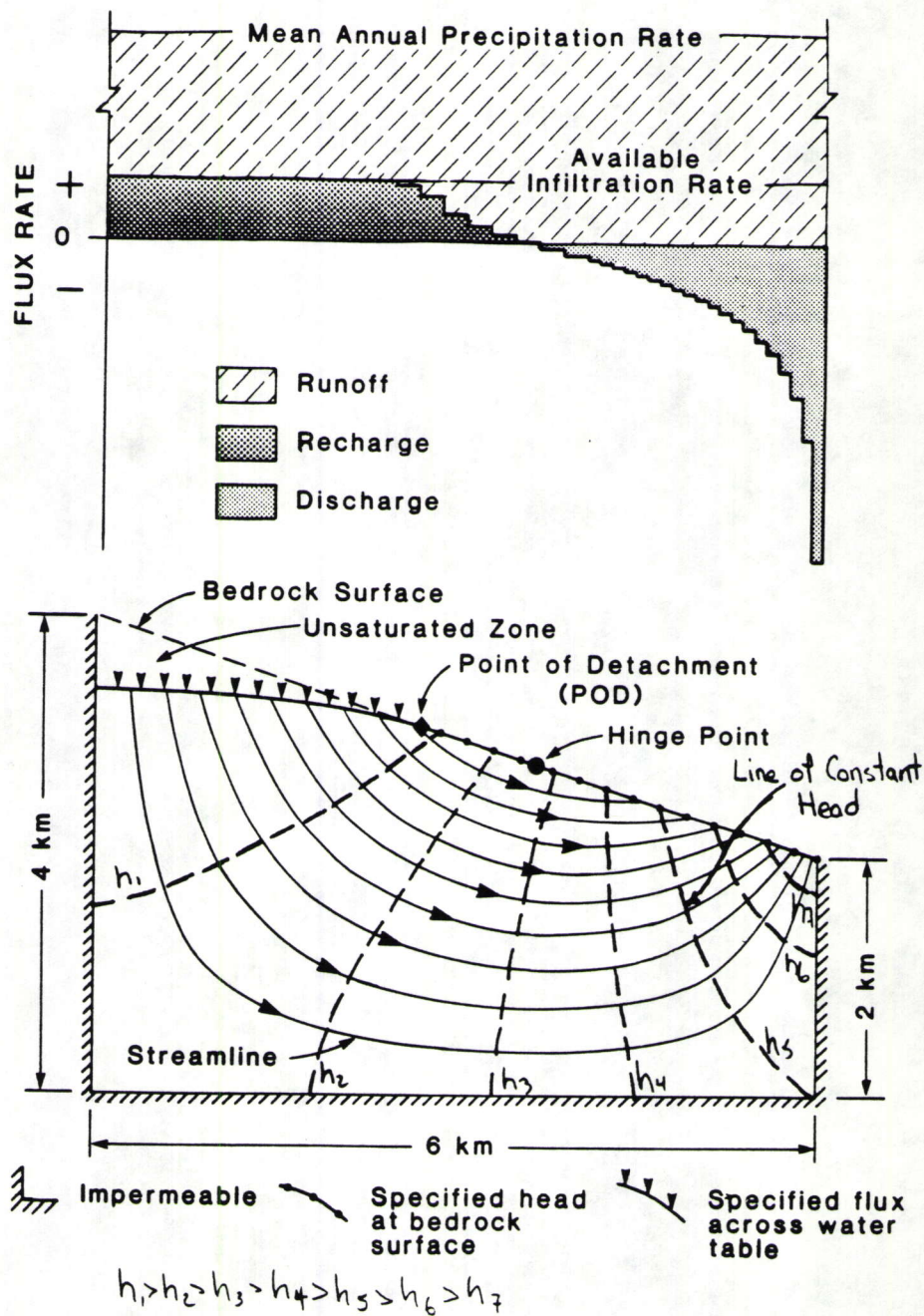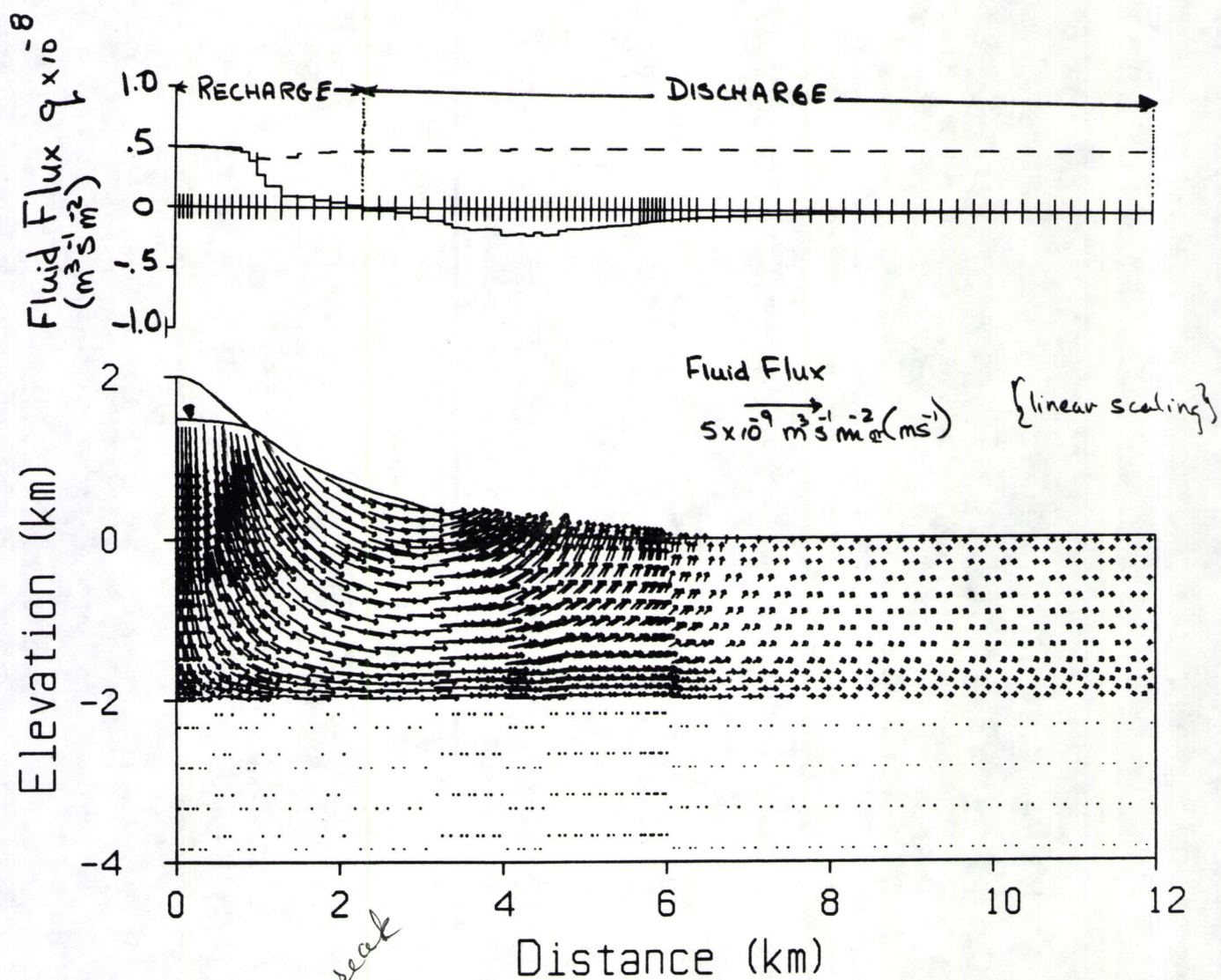
FIGURE 7. A schematic of a flow system based on numerical modeling results obtained for a domain with linear surface topography, homogeneous hydraulic conductivity structure and uniform recharge on the water table.

FIGURE 8. Numerical modeling results obtained for a domain with concave surface topography, homogeneous hydraulic conductivity structure ($K = 10^{-8}$ ms^{-1}) and uniform recharge on the water table (5×10^{-9} ms^{-1}).

Legend :

☐ = Qal — Alluvium and Colluvium ⎫
☐ = Qlc — Lake—Bottom Deposits ⎬ Quaternary
☐ = Tsl — Salt Lake Formation } Tertiary
☐ = Pzu — Sedimentary rocks undivided } Paleozoic
☐ = €p€u — Quartzite and associated metamorphic rocks undivided } Precambrian
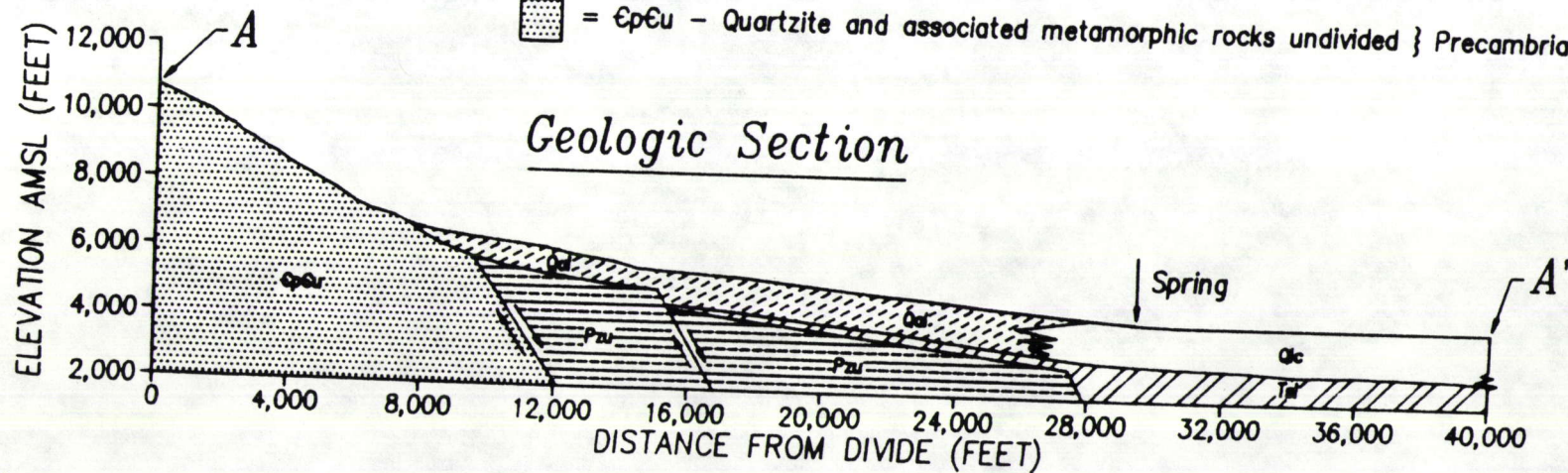
Geologic Section

3. Geologic section A-A′ showing inferred Pilot Valley stratigraphy across the study area. Interpretation by J. McCalpin, Department of Geology, Utah State University.
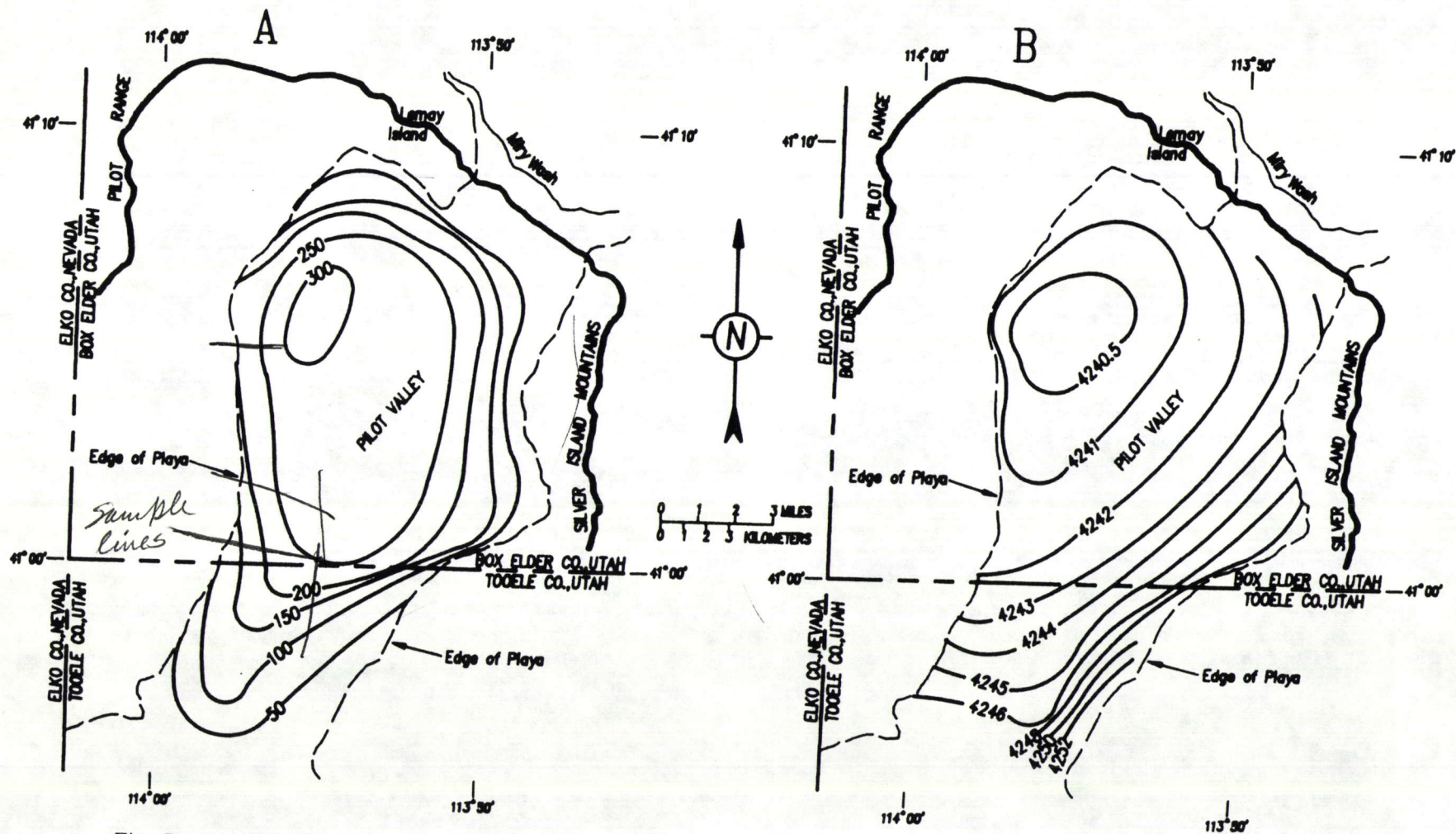
Fig. 7. (a). Total dissolved solids contours (grams per liter) for the shallow brine aquifer in Pilot Valley [after *Lines*, 1979]. (b). Water table elevation contours (feet above sea level) in the shallow brine aquifer in Pilot Valley [after *Lines*, 1979].

The impact of salinit...